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MICHAEL A. SANZO*
SCOTT A. MENGHINI
NORMAN N. KUNITZ*
RUDY KRATZ
RAMON R. HOCH*

FITCH, EVEN, TABIN & FLANNERY

ATTORNEYS AND COUNSELLORS AT LAW

Established in 1859

SUITE 401L - 1801 K STREET, NW
WASHINGTON, D.C. 20006-1201

TELEPHONE (202) 419-7000
FACSIMILE (202) 419-7007

ILLINOIS OFFICE

SUITE 1600 - 120 SOUTH LA SALLE STREET, CHICAGO, ILLINOIS 60603-3406
TELEPHONE (312) 577-7000

CALIFORNIA OFFICE

SUITE 250 - 9276 SCRANTON ROAD, SAN DIEGO, CA 92121-7708
TELEPHONE (858) 552-1311

COLORADO OFFICE

SUITE 213 - 1942 BROADWAY, BOULDER, COLORADO 80302
TELEPHONE (303) 402-6966

November 18, 2004

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TIMOTHY R. BAUMANN
JEFFREY A. CHELSTROM
NICHOLAS T. PETERS
KENNETH A. PLOCINSKI
MEGAN J. REDMOND

PATENT AGENTS

ERIC J. WHITESELL
LILIA I. SAFONOV

OF COUNSEL

GEORGE W. SPELLMIRE, JR.
LISA M. SOMMER
GEORGE H. SPENCER, P.C.*

TECHNICAL ADVISOR
JOHN M. BRONK, PH.D.

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Commissioner of Patents
U.S. Patent and Trademark Office
220 20th Street South
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Crystal Plaza Two, Lobby, Room 1B03
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Re: Information Disclosure Statement
Appl. No.: 10/784,902
Filed: February 24, 2004
Title: **Process for the Preparation of
L-Amino Acids Using Strains of the
Enterobacteriaceae Family**
Inventor(s): Rieping, *et al.*
Atty. Dkt.: 7601/80981

Dear Sir:

The following documents are being submitted for appropriate action by the U.S. Patent and Trademark Office:

1. Information Disclosure Statement;
2. PTO Form 1449, List of References Cited by Applicant;
3. References B1-B40 and C1-C74; and
4. Return postcard.

Applicants do not believe that any fees are due for the filing of these documents. However, the Director is hereby authorized to charge any fee deficiency with respect to this

Commissioner for Patents
November 18, 2004
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filing and any other fee required in connection with the present case, or credit any overpayment to our Deposit Account No. 06-1135 under Order No. 7909/80981.

It is respectfully requested that the enclosed postcard be stamped with the date the enclosed documents are received by the PTO and that it be returned as soon as possible.

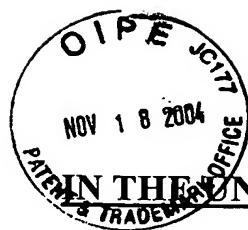
Very truly yours,

FITCH, EVEN, TABIN & FLANNERY

Michael A. Sanzo

Michael A. Sanzo
Reg. No. 36,912
Attorney for Applicants

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Enclosures



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Rieping, *et al.*

Appl. No.: 10/784,902

Filed: February 24, 2004

For: **Process for the Preparation of
L-Amino Acids Using Strains of the
Enterobacteriaceae Family**

Art Unit: to be assigned

Examiner: to be assigned

Atty. Dkt.: 7601/80981

Information Disclosure Statement

Commissioner of Patents
U.S. Patent and Trademark Office
220 20th Street South
Customer Window, MS Amendment
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

Sir:

Submitted herewith is a listing of documents known to Applicants and/or their attorney in compliance with the requirements of 37 C.F.R. § 1.56. Copies of the listed documents, with the exception of the United States patent(s), are also enclosed.

Applicants also wish to make the Examiner aware of co-pending applications 10/733,776, filed December 12, 2003; 10/784,914, filed February 24, 2004; 10/794,417, filed March 8, 2004; 10/812,315, filed March 30, 2004; and 10/817,431, filed April 5, 2004.

In accordance with 37 C.F.R. § 1.98(a)(3), Applicants' undersigned attorney submits the following concise explanation of the relevance of the non-English language document cited on the accompanying form:

Reference B1, PCT published application WO 99/18228, describes a method for increasing the microbial production of specific amino acids by increasing the activity or expression of pyruvate carboxylase. An English language abstract corresponding to this

document is enclosed herewith and is cited on the accompanying list of references as document C71.

Reference B3, PCT published application WO 01/05939 A1, describes a process for the production of L-amino acids, e.g., L-lysine and L-glutamic acid, by culturing a microorganism having variation or deletion of sigma factor which acts specifically on the stationary phase. An English language abstract corresponding to this document is enclosed herewith and is cited on the accompanying list of references as document C72.

Reference B39, German patent DE 101 32 946 A1, describes a process for the fermentative production of L-amino acids by culturing Enterobacteriaceae in which the activity of at least one specific gene is increased. The process is useful in producing threonine and other amino acids for use in animal nutrition, medicine and the food industry. An English language abstract corresponding to this document is enclosed herewith and is cited on the accompanying list of references as document C73.

Reference B40, German patent DE 101 35 053 A1, describes a process for preparing L-amino acids, e.g., L-threonine, by fermenting an organism of the Enterobactericeae family in which at least the malE gene is enhanced, particularly overexpressed, and then isolating the desired amino acid. An English language abstract corresponding to this document is enclosed herewith and is cited on the accompanying list of references as document C74.

Applicants do not waive any rights to appropriate action to establish patentability over any of the listed documents should they be applied as references against the claims of the present application. This statement should not be construed as a representation that more material information does not exist or that an exhaustive search of the relevant art has been made.

Consideration of the cited documents and making the same of record in the prosecution of the above-captioned application are respectfully requested.

Applicants do not believe any fees are due for the submission of this Information Disclosure Statement other than those which have been provided. However, the Director is hereby authorized to charge any fee deficiency to our Deposit Account No. 06-1135 under Order No. 7601/80981.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY



By _____

Michael A. Sanzo
Reg. No. 36,912
Attorney for Applicants

Date November 17, 2004
1801 K Street, N.W., Suite 401L
Washington, DC 20006-1201
Telephone: (202) 419-7000

LIST OF REFERENCES CITED BY APPLICANT
(Use several sheets if necessary)

NOV 18 2004

PATENT & TRADEMARK OFFICE
 U.S. PATENT DOCUMENTS

Atty. Docket No.: 7601/80981

Appl. No.: 10/784,902

Applicant(s) Rieping, *et al.*

Filing Date: February 24, 2004

Group: to be assigned

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	A 1	4,278,765	Jul. 14, 1981	Debabov, <i>et al.</i>	435	172	Jun. 28, 1979
	A 2						
	A 3						
	A 4						
	A 5						
	A 6						
	A 7						
	A 8						
	A 9						
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Examiner

Date Considered

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		Applicant(s) Rieping, et al.			
		Filing Date: February 24, 2004		Group: to be assigned	

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Country	Class	Subclass	Abst./Trans.	
							Yes	No
	B 1	WO 99/18228	Apr. 15, 1999	WIPO	C12P	13/00	X	
	B 2	WO 99/53035	Oct. 21, 1999	WIPO	C12N	9/00		
	B 3	WO 01/05939 A1	Jan. 25, 2001	WIPO	C12N	1/21	X	
	B 4	WO 01/92545 A1	Dec. 6, 2001	WIPO	C12N	15/70		
	B 5	WO 02/06459 A1	Jan. 24, 2002	WIPO	C12N	9/02		
	B 6	WO 02/29080 A2	Apr. 11, 2002	WIPO	C12P	13/04		
	B 7	WO 02/36797 A2	May 10, 2002	WIPO	C12P	13/00		
	B 8	WO 02/064808 A1	Aug. 22, 2002	WIPO	C12P	13/08		
	B 9	WO 02/081698 A2	Oct. 17, 2002	WIPO	C12N	15/31		
	B 10	WO 02/081721 A2	Oct. 17, 2002	WIPO	C12P	13/00		
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	B 12	WO 03/004598 A2	Jan. 16, 2003	WIPO	C12N			
	B 13	WO 03/004663 A2	Jan. 16, 2003	WIPO	C12P			
	B 14	WO 03/004664 A2	Jan. 16, 2003	WIPO	C12P			
	B 15	WO 03/004665 A2	Jan. 16, 2003	WIPO	C12P			
	B 16	WO 03/004669 A2	Jan. 16, 2003	WIPO	C12P	13/00		
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Examiner Initial		Document Number	Date	Country	Class	Subclass	Abst./Trans.	
							Yes	No
B 28		WO 03/008610 A2	Jan. 30, 2003	WIPO	C12P	13/00		
B 29		WO 03/008612 A2	Jan. 30, 2003	WIPO	C12P	13/00		
B 30		WO 03/008613 A2	Jan. 30, 2003	WIPO	C12P	13/00		
B 31		WO 03/008614 A2	Jan. 30, 2003	WIPO	C12P	13/00		
B 32		WO 03/008615 A2	Jan. 30, 2003	WIPO	C12P	13/00		
B 33		WO 03/038106 A2	May 8, 2003	WIPO	C12P	13/14		
B 34		WO 03/076635 A1	Sep. 18, 2003	WIPO	C12P	13/04		
B 35		EP 0 271 838 A2	Jun. 22, 1988	EPO	C12N	15/00		
B 36		EP 0 994 190 A2	Apr. 19, 2000	EPO	C12N	15/31		
B 37		EP 1 013 765 A1	Jun. 28, 2000	EPO	C12N	15/31		
B 38		EP 1 149 911 A2	Oct. 31, 2001	EPO	C12N	15/52		
B 39		DE 101 32 946 A1	Jul. 6, 2001	Germany	C12N	15/31	X	
B 40		DE 101 35 053 A1	Jul. 18, 2001	Germany	C12P	13/04	X	
B 41								
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Examiner				Date Considered				

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			Filing Date:	February 24, 2004
Examiner Initial	OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
C 1	ANDREWS, <i>et al.</i> , "Cloning, Sequencing, and Mapping of the Bacterioferritin Gene (<i>bfr</i>) of <i>Escherichia coli</i> K-12," <i>J. Bacteriol.</i> 171:3940-3947 (1989).			
C 2	BLANKENHORN, <i>et al.</i> , "Acid- and Base-Induced Proteins during Aerobic and Anaerobic Growth of <i>Escherichia coli</i> Revealed by Two-Dimensional Gel Electrophoresis," <i>J. Bacteriol.</i> 181:2209-2216 (1999).			
C 3	BLATTNER, <i>et al.</i> , "The Complete Genome Sequence of <i>Escherichia coli</i> K-12," <i>Science</i> 277:1453-1462 (1997).			
C 4	BOOS, <i>et al.</i> , "Maltose/Maltodextrin System of <i>Escherichia coli</i> : Transport, Metabolism, and Regulation," <i>Microbiol. Mol. Biol. Rev.</i> 62:204-229 (1998).			
C 5	BRUNE, <i>et al.</i> , "Cloning and Sequencing of the Adenylate Kinase Gene (<i>adk</i>) of <i>Escherichia coli</i> ," <i>Nucleic Acids Res.</i> 13:7139-7151 (1985).			
C 6	CARRIER, <i>et al.</i> , "Library of Synthetic 5' Secondary Structures to Manipulate mRNA Stability in <i>Escherichia coli</i> ," <i>Biotechnol. Prog.</i> 15:58-64 (1999).			
C 7	CLARKE, <i>et al.</i> , "Nucleotide Sequence of the <i>pntA</i> and <i>pntB</i> Genes Encoding the Pyridine Nucleotide Transhydrogenase of <i>Escherichia coli</i> ," <i>Eur. J. Biochem.</i> 158:647-653 (1986).			
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C 9	DANOT, "A Complex Signaling Module Governs the Activity of MalT, the Prototype of an Emerging Transactivator Family," <i>Proc. Natl. Acad. Sci. USA</i> 98:435-440 (2001).			
C 10	DiRUSSO, "Nucleotide Sequence of the <i>fadR</i> Gene, a Multifunctional Regulator of Fatty Acid Metabolism in <i>Escherichia coli</i> ," <i>Nucleic Acids Res.</i> 16:7995-8009 (1988).			
C 11	ENOS-BERLAGE, <i>et al.</i> , "Complex Metabolic Phenotypes Caused by a Mutation in <i>yigF</i> , Encoding a Member of the Highly Conserved YER057c/YigF Family of Proteins," <i>J. Bacteriol.</i> 180:6519-6528 (1998).			
C 12	FOUNTOULAKIS, <i>et al.</i> , "Enrichment of Low Abundance Proteins of <i>Escherichia coli</i> by Hydroxyapatite Chromatography," <i>Electrophoresis</i> 20:2181-2195 (1999).			
C 13	FRANCH, <i>et al.</i> , "U-Turns and Regulatory RNAs," <i>Curr. Opin. Microbiol.</i> 3:159-164 (2000).			
C 14	GARRIDO-PERTIERRA, "Isolation and Properties of <i>Salmonella typhimurium</i> Mutants Defective in Enolase," <i>Revista Española de Fisiología</i> 36:33-40 (1980).			
C 15	GULICK, <i>et al.</i> , "Evolution of Enzymatic Activities in the Enolase Superfamily: Crystal Structures of the L-Ala-D/L-Glu Epimerases from <i>Escherichia coli</i> and <i>Bacillus subtilis</i> ," <i>Biochemistry</i> 40:15716-15724 (2001).			
C 16	HEIM, <i>et al.</i> , "Cloning an <i>Escherichia coli</i> Gene Encoding a Protein Remarkably Similar to Mammalian Aldehyde Dehydrogenases," <i>Gene</i> 99:15-23 (1991).			
C 17	HOFNUNG, Divergent Operons and the Genetic Structure of the Maltose B Region in <i>Escherichia coli</i> K12," <i>Genetics</i> 76:169-184 (1974).			
C 18	HOGG, <i>et al.</i> , "Nucleotide Sequence and Analysis of the <i>mgI</i> Operon of <i>Escherichia coli</i> K12," <i>Mol. Gen. Genet.</i> 229:453-459 (1991).			
C 19	JENSEN, <i>et al.</i> , "Artificial Promoters for Metabolic Optimization," <i>Biotechnol. Bioeng.</i> 58:191-195 (1998).			
Examiner		Date Considered		

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		Filing Date: February 24, 2004	Group: to be assigned
Examiner Initial		OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)	
	C 20	KAGA, et al., "Rnase G-Dependent Degradation of the <i>eno</i> mRNA Encoding a Glycolysis Enzyme Enolase in <i>Escherichia coli</i> ," <i>Biosci. Biotechnol. Biochem.</i> 66:2216-2220 (2002).	
	C 21	KIRKPATRICK, et al., "Acetate and Formate Stress: Opposite Responses in the Proteome of <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> 183:6466-6477 (2001).	
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	C 23	KNAPPE, et al., "A Radical-Chemical Route to Acetyl-CoA: The Anaerobically Induced Pyruvate Formate-Lyase System of <i>Escherichia coli</i> ," <i>FEMS Microbiol. Rev.</i> 75:383-398 (1990).	
	C 24	KOMATSUBARA, et al., "Transductional Construction of a Threonine-Producing Strain of <i>Serratia marcescens</i> ," <i>Appl. Environ. Microbiol.</i> 38:1045-1051 (1979).	
	C 25	LANDGRAF, et al., "The Role of H-NS in One Carbon Metabolism," <i>Biochimie</i> 76:1063-1070 (1994).	
	C 26	LEE, et al., "Global Analysis of Transcriptomes and Proteomes of a Parent Strain and an L-Threonine-Overproducing Mutant Strain," <i>J. Bacteriol.</i> 185:5442-5451 (2003).	
	C 27	MACPHERSON, et al., "Identification of the GalP Galactose Transport Protein of <i>Escherichia coli</i> ," <i>J. Biol. Chem.</i> 258:4390-4396 (1983).	
	C 28	MARTIN, et al., "Forskolin Specifically Inhibits the Bacterial Galactose-H ⁺ Transport Protein, GalP," <i>J. Biol. Chem.</i> 269:24870-24877 (1994).	
	C 29	MASUDA, et al., "Improvement of Nitrogen Supply for L-Threonine Production by a Recombinant Strain of <i>Serratia marcescens</i> ," <i>Appl. Biochem. Biotechnol.</i> 37:255-265 (1992).	
	C 30	McPHERSON, et al., "Complete Nucleotide Sequence of the <i>Escherichia coli</i> <i>gdhA</i> Gene," <i>Nucleic Acids Res.</i> 11:5257-5267 (1983).	
	C 31	MEYER, et al., "Molecular Characterization of Glucokinase from <i>Escherichia coli</i> K-12, <i>J. Bacteriol.</i> 179:1298-1306 (1997).	
	C 32	MISSIAKAS, et al., "Modulation of the <i>Escherichia coli</i> σ ^E (RpoE) Heat-Shock Transcription-Factor Activity by the RseA, RseB and RseC Proteins," <i>Mol. Microbiol.</i> 24:355-371 (1997).	
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	C 34	NIERSBACH, et al., "Cloning and Nucleotide Sequence of the <i>Escherichia coli</i> K-12 <i>ppsA</i> Gene, Encoding PEP Synthase," <i>Mol. Gen. Genet.</i> 231:332-336 (1992).	
	C 35	PARSONS, et al., "Solution Structure and Functional Ligand Screening of HI0719, a Highly Conserved Protein from Bacteria to Humans in the YigF/YER057c/UK114 Family," <i>Biochemistry</i> 42:80-89 (2003).	
	C 36	POSTMA, "Galactose Transport in <i>Salmonella typhimurium</i> ," <i>J. Bacteriol.</i> 129:630-639 (1977).	
	C 37	QIU, et al., "The <i>Escherichia coli</i> <i>polB</i> Locus Is Identical to <i>dinA</i> , the Structural Gene for DNA Polymerase II," <i>J. Biol. Chem.</i> 272:8611-8617 (1997).	
	C 38	RAIBAUD, et al., "Maltotriose Is the Inducer of the Maltose Regulon of <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> 169:3059-3061 (1987).	
Examiner		Date Considered	

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	Filing Date: February 24, 2004	Group: to be assigned

Examiner Initial	OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)	
	C 39	RAIBAUD, et al., "Essential and Nonessential Sequences in <i>malPp</i> , a Positively Controlled Promoter in <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> 161:1201-1208 (1985).
	C 40	RAVNIKAR, et al., "Structural and Functional Analysis of a Cloned Segment of <i>Escherichia coli</i> DNA That Specifies Proteins of a C ₄ Pathway of Serine Biosynthesis," <i>J. Bacteriol.</i> 169:4716-4721 (1987).
	C 41	REYES, et al., "Overproduction of MalK Protein Prevents Expression of the <i>Escherichia coli</i> <i>mal</i> Regulon," <i>J. Bacteriol.</i> 170:4598-4602 (1988).
	C 42	RICHET, et al., "MalT, the Regulatory Protein of the <i>Escherichia coli</i> Maltose System, Is an ATP-Dependent Transcriptional Activator," <i>EMBO J.</i> 8:981-987 (1989).
	C 43	RÖDEL, et al., "Primary Structures of <i>Escherichia coli</i> Pyruvate Formate-Lyase and Pyruvate-Formate-Lyase-Activating Enzyme Deduced from the DNA Nucleotide Sequences," <i>Eur. J. Biochem.</i> 177:153-158 (1988).
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	C 45	SABE, et al., "Molecular Cloning of the Phosphoenolpyruvate Carboxylase Gene, <i>ppc</i> , of <i>Escherichia coli</i> ," <i>Gene</i> 31:279-283 (1984).
	C 46	SCHLEGEL, et al., "Network Regulation of the <i>Escherichia coli</i> Maltose System," <i>J. Mol. Microbiol. Biotechnol.</i> 4:301-307 (2002).
	C 47	SCHMITZ, et al., "Reduced Transaminase B (IlvE) Activity Caused by the Lack of <i>yigF</i> Is Dependent on the Status of Threonine Deaminase (IlvA) in <i>Salmonella enterica</i> Serovar Typhimurium," <i>J. Bacteriol.</i> 186:803-810 (2004).
	C 48	SCHREIBER, et al., "A New Mechanism for the Control of Prokaryotic Transcriptional Regulator: Antagonistic Binding of Positive and Negative Effectors," <i>Mol. Microbiol.</i> 35:765-776 (2000).
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